

ABSTRACT

5 The present invention relates to chemically synthesized promoters that circumvent the disadvantages of the universal CMV promoter/enhancer elements. The promoter may be used in a variety of applications, particularly in genetic immunization. The chemically synthesized promoter overcomes the common problems of the CMV promoter element such as: low transgene expression levels, transient expression, and the large amount of plasmid DNA needed for intramuscular injection in subjects.